Claims

1. A method for reducing distortion in images provided by a display system (100) employing Spatial Light Modulating (SLM) elements comprising steps of:

providing a set (620) of pixel values corresponding to pixels of an image to be displayed wherein the number of pixel values comprising said set is greater than the number of available SLM elements;

adjusting at least some of said pixel values to provide a set of adjusted pixel values (678);

generating at least a first set of pixels and a second set of pixels from said set of adjusted pixel values;

displaying said image as a matrix of pixels (450) comprising said first set of pixels (410) and said second set of pixels (430), wherein the number of pixels of said matrix is greater than the number of said SLM elements, and wherein at least one of the pixels of said first set overlaps at least one of the pixels of said second set;

wherein said adjusting step is carried by adjusting pixel values of said set of pixel values to compensate for image distortion due to overlapping pixels of said matrix.

2. The method of claim 1 wherein said set of pixel values comprises luminance values.

3. The method of claim 1 wherein said set of pixel values comprises chrominance values.

4. The method of claim 1 wherein said adjusting step includes a step of scaling respective pixel values of said set of pixel values in accordance a first scaling factor. β

5. The method of claim 4 wherein said adjusting step further includes steps of summing values of pixels overlapping said respective pixel values.and scaling the sum by a second scaling factor.α.

6. The method of claim 4 wherein said first scaling factor is adjustable.

7. The method of claim 5 wherein said second scaling factor is adjustable.

8. The method of claim 5 wherein said first scaling and second scaling factors are related according to the equation: $\beta = 1 + 4\alpha$.

9. A system (100) employing an array (500) of Spatial Light Modulating (SLM) elements to display video images comprising:

a source of video image data comprising at least one set (620) of pixel values corresponding to pixels of an image to be displayed wherein the number of pixel values in said set is greater than the number of SLM elements comprising said array;

a filter (320) coupled to said source to receive said at least one set of pixel values, said filter configured to adjust at least one pixel value in said set to provide an adjusted set of pixel values (678);

a pixel group generator (603) coupled to said filter (320) to receive said adjusted set of pixel values (603), said pixel group generator providing at least a first group of pixels and a second group of pixels based upon said adjusted set of pixel values;

said SLM elements cooperating with said pixel group generator to display said image as a matrix of pixels (450) comprising said first group of pixels (410) and said second group of pixels (430), wherein at least one of the pixels of said first group overlaps at least one of the pixels of said second group in said matrix;

wherein said filter is configured to adjust pixel values of overlapping pixels to compensate for image distortion due to said overlapping pixels.

10. The system according to claim 9 wherein said filter includes at least one of first and second scalers for scaling pixel values in accordance with first and second scaling factors.

11. The system according to claim 10 wherein at least one of said first and second scaling factors is adjustable.

12. The system according to claim 9, wherein said pixels comprise diamond shape pixels.